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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/044,701	11/09/2001	Hans-Ueli Roeck	34152	7952

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EXAMINER	
LEE, PING	

ART UNIT	PAPER NUMBER
2644	

DATE MAILED: 11/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/044,701	ROECK ET AL.	
	Examiner	Art Unit	
	Ping Lee	2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 August 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification as originally filed fails to provide the support of the limitation "by initiating an automatic time-based transition in response to said momentary acoustic surround situation and performing said transition independently of said situation" as specified in claims 1, 20 and 24. On p.12, the last paragraph specifies that the automatic hearing program switching is performed "with the aid of an algorithm to recognize the momentary acoustic surround situation". However, the specification fails to indicate that the transition will proceed independent of the momentary situation. The last paragraph on p. 12 discloses the automatic *detection* of the momentary acoustic surround situation. It fails to disclose an automatic time-based transition in response to said momentary acoustic surround situation and performing said transition independently of said situation. For example, in a noisy situation, the algorithm as suggested by the specification determines to switch the hearing program. The smooth

transition, as indicated on p. 8, will take a finite amount of time such as 1 second. If the momentary situation is changed again before the smooth transition reaching its desired state, the general algorithm as suggested by the specification will change the hearing program again, that is, it will not be independent of the momentary situation.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-19 and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the limitations "hearing program can be selected" on line 2 and "can be changed" on line 4 are indefinite. For examination purpose, it is assumed that the limitations be read as "hearing program is selected" and "are changed" respectively.

Claim 24 has the similar defect as specified for claim 1.

Regarding claim 13, it is said that the hearing program is selected by a manual intervention. However, this conflicts with the automatic transition as specified in independent claim 1. For examination purpose, it is assumed that the method has two type of intervention, one is automatic transition and the other is manual intervention.

Claims 14-18 have the same defect as specified for claim 13.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 20-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Killion et al (US006101258A).

Regarding claim 24, Killion et al (hereafter Killion) disclose a method for operating a hearing device (hearing aid) in which one of several possible hearing programs (omnidirectional or directional programs) is selected at a given time to adjust to a momentary acoustic surround situation (noise condition) comprising the steps of providing a microphone (240, 235, or 230 in Fig. 13); providing transfer functions (the gain and equalization for mic 240 and 235, or the gain for mic 230) between the microphone and a hearer, the transfer functions having parameters (the gain is varied from 0 to 1 based on the resistance provided by the FET; col. 8, lines 50-55) and corresponding with the programs (for omnidirectional program, the gain is 1 for FET 275; for directional program, the gain is 1 for FET 260 and 255); initiating a change in at least one of the parameters in response to said momentary acoustic surround situation (detected by 270) from a momentary value (for example the gain is zero for mic 230 at the beginning) to a desired value (the gain is 1) in an automatic (no manual switch required) smooth time-based manner (logarithmic rectifier 270 has a smooth transfer function which is determined by its inherent time constant) independently of said

momentary acoustic surround situation (independent of the noise level in the low ambient noise conditions; col. 9, lines 65-66) in order to provide a smooth transition from one hearing program to another.

Regarding claim 20, Killion discloses hearing device, whereas at least one filter unit (260,255,275) is provided which filter unit (260,255,275) generates automatic (no manual switch require) smooth time-based (logarithmic rectifier 270 has a smooth transfer function which is determined by its inherent time constant) transitions of parameters (the signals received by the microphones) which are affected by hearing program switching (omnidirectional or directional programs), in that values of the parameters (signal received by the microphones) to be changed by a hearing program switching are passed through the filter unit (260,255,275) in order to obtain a smooth transition from a momentary (for example the signals from microphones 240 and 235 are not attenuated) to a desired parameter value (the signals from microphones 240 and 235 are completely attenuated), the transition being initiated by the momentary acoustic surround situation (noise condition) and the transition being performed independently of said situation (independent of the noise level in the low ambient noise conditions; col. 9, lines 65-66).

Regarding claims 21 and 22, the claimed low-pass characteristic and the ramp generator read on the logarithmic rectifier.

Claim Rejections - 35 USC § 103

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 1-12, 1/19, 2/19, 3/19, 4/19, 5/19, 6/19, 7/19, 8/19, 9/19, 10/19, 11/19, 12/19 and 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen (US006704422B1) in view of Killion.

Regarding claim 1, 2, 7-12, 1/19, 2/19, 7/19, 8/19, 9/19, 10/19, 11/19, 12/19, 20 and 24, Jensen discloses a method for operating a hearing device (hearing aid) in which one of several possible hearing programs (omnidirectional or directional programs) is selected at a given time in order to adjust to a momentary acoustic surround situation (noise condition; col. 1, lines 28-29, 39-44), in that parameters (the coefficients for X_{front} and X_{back} respectively; col. 6, line 58) of a transfer function (the function between the input and output) provided between a microphone (Fmic or Bmic) and a hearer are changed, whereas the parameters (the coefficients for X_{front} and X_{back} respectively; col. 6, line 58) to be changed according to the hearing program switching are adjusted from a momentary value (for example, omni is 0) to a desired value (omni is 1) in a smooth manner (abstract, col. 2, line 22, col. 5, line 10) in order to provide a smooth transition from one hearing program to another by initiating an automatic (col. 2, line 28) time-based transition (smooth transition is inherently time-based to provide gradual change over a time period).

Jensen suggests having a smooth transition, but fails to explicitly disclose that the smooth transition is in response to momentary acoustic surround situation and

performing the change-over independently of the situation. Jensen teaches the benefit of having omnidirectional response in a low noise environment and having the directional response in a high noise environment (col. 1, lines 27-44). In the same field of endeavor, Killion teaches how to smoothly change from directional response to omnidirectional response or vice versa by measuring the ambient noise level (Fig. 13, 270). Killion further suggests to maintain the omnidirectional response when the momentary acoustic surround situation is in low ambient noise conditions (col. 9, lines 65-67), i.e., the transition is independent of noise level when the specific noise level is considered as a low noise condition. Thus, it would have been obvious to one of ordinary skill in the art to modify Jensen by initiating the transition based on the momentary situation as suggested in Killion in order to provide proper microphone reception according to the noise condition.

Regarding claims 3, 4, 3/19, 4/19 and 21, the claimed step response of a low-pass filter reads on the response of the logarithmic rectifier as taught in Killion.

Regarding claims 5, 6, 5/19, 6/19 and 22, the claimed ramp generator reads on the response of the logarithmic rectifier as taught in Killion.

9. Claims 13-18, 13/19, 14/19, 15/19, 16/19, 17/19 and 18/19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Killion in view of

10. Claims 13-18, 13/19, 14/19, 15/19, 16/19, 17/19 and 18/19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen in view of Killion as applied to claims 1-12, 1/19, 2/19, 3/19, 4/19, 5/19, 6/19, 7/19, 8/19, 9/19, 10/19, 11/19, 12/19 above, and further in view of Ruegg (US 3,875,349).

Regarding claims 13-18, 13/19, 14/19, 15/19, 16/19, 17/19, and 18/19, Jensen fails to teach manual intervention. Jensen however teaches a switch-over or a smooth change-over (col. 5, line 10). The "switch-over" in Jensen implies non-smooth changing. Killion suggests the manual intervention in another embodiment as shown in Fig. 1. Ruegg teaches a hearing aid not only need automatic control of the hearing program, it also needs manual control which will enable the user to have control over his/her hearing aid when he/she has a desire to change the program (col. 3, lines 36-41). Thus, it would have been obvious to one of ordinary skill in the art to further modify Jensen and Killion's system in view of Ruegg by having a manual intervention over an oversteer unit in order to enable the hearing aid's wearer to have a manual control over the hearing program when he/she wants have a change.

Response to Arguments

11. Applicant's arguments with respect to claims 1-24 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ping Lee whose telephone number is 571-272-7522. The examiner can normally be reached on Monday and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian C. Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ping Lee
Primary Examiner
Art Unit 2644

pwl